

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047911 A1

(51) International Patent Classification⁷: **G01R 31/26**
(21) International Application Number:
PCT/US2003/035116

(22) International Filing Date:
5 November 2003 (05.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **INTERNATIONAL BUSINESS MACHINES CORPORATION** [US/US]; New Orchard Road, Armonk, NY 10504 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **PASTEL, Leah, M., P.** [US/US]; 18 Essex Highlands, Essex Junction, VT 05452 (US).

(74) Agent: **MERECKI, John, A.**; Hoffman, Warnick & D'Alessandro LLC, Three E-Comm Square, Albany, NY 12207 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

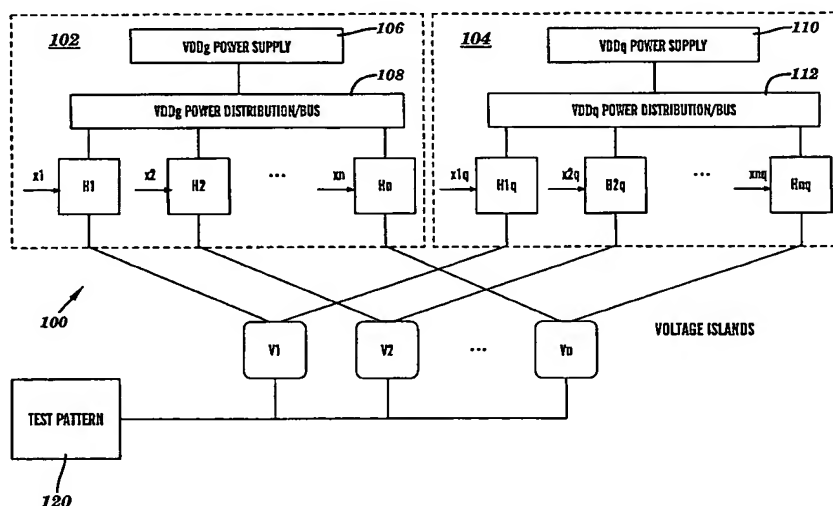
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **HOT SWITCHABLE VOLTAGE BUS FOR IDDQ CURRENT MEASUREMENTS**



(57) Abstract: A voltage island system including a hot-switchable voltage bus for IDDQ current measurements. The voltage island system includes a plurality of voltage islands (V1, V2, ..., Vn), a global power system (102), and a quiescent power system (104). The global power system (102) includes a plurality of on-chip global header devices (H1, H2, ..., Hn) for selectively providing a voltage VDDg to the plurality of voltage islands in response to global header control signals (x1, x2, ..., xn), respectively. A global VDDg power supply (106) provides power to the global header devices (H1, H2, ..., Hn) via a VDDg power distribution grid/bus (108). The quiescent power system (104) includes a plurality of on-chip quiescent header devices (H1q, H2q, ..., Hnq) for selectively providing a quiescent voltage VDDq to the plurality of voltage islands in response to quiescent header control signals (x1q, x2q, ..., xnq), respectively. A quiescent VDDq power supply (110) provides power to the quiescent header devices via a VDDq power distribution grid/bus (112).